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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/718,769	11/22/2003	Matthew D. Felder	SIG000108	8876
34399	7590	12/28/2005	EXAMINER	
GARLICK HARRISON & MARKISON LLP P.O. BOX 160727 AUSTIN, TX 78716-0727			PRUCHNIC, STANLEY J	
			ART UNIT	PAPER NUMBER
			2859	

DATE MAILED: 12/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	10/718,769	FELDER, MATTHEW D.
	Examiner Stanley J. Pruchnic, Jr.	Art Unit 2859

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 11 July 2005 and 28 September 2005.
 2a) This action is **FINAL**. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-36 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 1-36 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on 22 November 2003 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
 Paper No(s)/Mail Date _____.
 4) Interview Summary (PTO-413)
 Paper No(s)/Mail Date. _____.
 5) Notice of Informal Patent Application (PTO-152)
 6) Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 11 July 2005 have been fully considered as applied to the amendment received 28 September 2005 but they are not persuasive.
2. In response to applicant's argument that "MIZUTA teaches that the temperature may be set to specific points wherein the voltage output of the temperature sensing circuit is an ideal temperature voltage output": Applicant's arguments fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references. MIZUTA teaches (e.g., Col. 4, Lines 46-51) programming the current IF, resulting in a temperature-dependent voltage output, then converting the temperature-dependent voltage output into a digital value, ("temperature data", corresponding to a temperature).
3. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (*i.e.*, maintaining the output of the analog to digital converter within a predetermined range of values in order to take advantage of the resolution of the analog to digital converter and the range being based on the resolution of the analog to digital converter, not necessarily on the temperature) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). When MIZUTA based the current value on the temperature, an output of the analog to digital converter is maintained within a predetermined range of values, having been adjusted by changing the current IF.
4. In response to applicant's argument that "MIZUTA fails to teach the current source may be an on-chip device as recited in the independent Claims" -- MIZUTA inherently discloses the current source is an "on-chip device" in Col. 5, Lines 14-35, when MIZUTA discloses the current source comprises pMOS transistors, the

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designation “pMOS” referring to the method of manufacture of the device as including a (p-channel) Metal Oxide Semiconductor (MOS) device, such a semiconductor device being known in the art as an “on-chip” device as claimed by Applicant.

5. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

- a. With regard to the rejection of claims 3, 6, 17 and 20 under 35 U.S.C. 103(a) as being unpatentable over **MIZUTA** in view of US 4,161,880 A (**PROSKY**): In this case, the motivation is in the knowledge generally available to one of ordinary skill in the art. **MIZUTA** and **PROSKY** are both in the field of thermometry: A diode thermometer and a thermistor are both well known types of non-linear thermometer devices that are each used in measuring temperatures of on-chip and off-chip devices.
- b. With regard to the rejection of claims 8, 9, 22, and 23 under 35 U.S.C. 103(a) as being unpatentable over **MIZUTA** in view of US 5,459,671 A (**DULEY**): In this case, the motivation is in the knowledge generally available to one of ordinary skill in the art. **MIZUTA** and **DULEY** are both in the field of temperature measurement of electronic devices.
- c. With regard to the rejection of claims 8, 10 and 21 under 35 U.S.C. 103(a) as being unpatentable over **MIZUTA** in view of US 6,092,926 A (**STILL et al.**, hereinafter **STILL**): In this case, the motivation is in the knowledge generally available to one of ordinary skill in the art. **MIZUTA** and **STILL** are both in the field of temperature measurement of electronic devices.

d. With regard to the rejection of claims 11 and 16 under 35 U.S.C. 103(a) as being unpatentable over **MIZUTA** in view of US 6,240,371 A (**AZAR**): In this case, the motivation is in the knowledge generally available to one of ordinary skill in the art. **MIZUTA** and **AZAR** are both in the field of temperature measurement of electronic devices.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim Rejections - 35 USC § 112

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 5-6 and 8-10 are FINALLY rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding Claims 5 and 8: In each of Claim 5 and Claim 8, in Line 1, "the devices" lacks antecedent basis. The phrase "wherein the device[s] comprises an off-

chip device" makes the claim language confusing, since there are two devices introduced in Claim 1 and it is not clear which device or devices "comprises an off-chip device": Is it the "device" mentioned in Claim 1, in the preamble and in Line 7, but not positively claimed? Or, is it the "temperature dependent resistive device" (Claim 1, Line 5)?

For consideration as to the merits, regarding the method claims, the particular location of the device[s] does not affect the method in a manipulative sense, but since the current source has been defined as being "an on-chip current source", the "device[s]" is considered to not be located on the same chip as the "on-chip current source". Broadly considered, one or both of the "temperature dependent resistive device" and "the device" to which said "temperature dependent resistive device" is thermally coupled to are "off-chip", meaning not on the same chip as the current source.

Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

11. Claims 1, 2, 4, 5, 7, 12-15, 18 and 19 are FINALLY rejected under 35 U.S.C. 102(e) as being anticipated by US 6,674,185 B2 (**MIZUTA**).

MIZUTA discloses a digital thermometer for measuring a temperature of an off-chip device that comprises: an on-chip programmable current source (20; see Figs. 2 and 4A; Col. 3, Lines 53-62) to provide a current output (IF); an analog-to-digital converter 50 (Col. 5, Lines 49-52) operably coupled to sample a temperature-dependent voltage output VF produced by a temperature dependent resistive device (diode 31, in the embodiment of Fig. 2) and the current output IF and convert the temperature-

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dependent voltage output to a digital value (Col. 4, Lines 63-67); and a processing module that receives the digital value and equates the digital value to the temperature of the off-chip device as claimed by Applicant in **Claim 12**.

MIZUTA discloses the method for sensing a temperature of a device, as claimed by Applicant in **claim 1**, which is met in the normal operation of the digital thermometer as described above regarding **Claim 12**, as the disclosed thermometer is disclosed as establishing a programmable current IF for an on-chip current source 20; sensing a temperature-dependant voltage VF that is based on a temperature dependent resistive device 31 and the programmable current, wherein the temperature dependent resistive device is thermally coupled to the device; converting the temperature-dependant voltage to a digital value; and equating the digital value to the temperature of the device. **MIZUTA** does not explicitly disclose that the temperature dependent resistive device is thermally coupled to the device as claimed in **Claim 1**. The temperature dependent resistive device will be inherently be thermally coupled to whatever device it is used in for sensing the temperature of that device.

Further regarding **Claims 2, 7 and 13**: **MIZUTA** discloses the processing module (e.g., see Fig. 4C) directs the on-chip programmable current source to: increase the current output (Col. 6, Lines 49-57) if the digital value decreases below a lower threshold value; and decrease the current output (Col. 6, Lines 61-66) if the digital value increases above an upper threshold value. The method of claim 1 further comprises adjusting the programmable current such that the temperature-dependent voltage is within a predetermined range of values, the device being trimmed for temperature values in a desired temperature range, for converting the temperature-dependent voltage into the digital value, wherein the equating of the digital value is further based on the adjusting of the programmable current.

Further regarding **Claims 14 and 15**: **MIZUTA** discloses the analog-to-digital converter comprises a comparator (51); and the processing module auto-ranges the on-chip programmable current source so that the current output produces the temperature-dependent voltage output within a predetermined range.

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Further regarding **Claims 4 and 18**: **MIZUTA** discloses the method and apparatus wherein the processing module equates the digital value to the temperature of the device further comprises determining the temperature of the device from a table (e.g., Fig. 5B) relating digital values to temperatures.

Further regarding **Claim 5 and 19**, **MIZUTA** discloses equating the digital value to the temperature of the off-chip device further comprises calculating the temperature of the off-chip device with a predetermined function wherein the temperature is a function of: at least one property of the programmable current; a digitized voltage; and a set of physical properties of the temperature dependent resistive device.

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claims 3, 6, 17, and 20 are FINALLY rejected under 35 U.S.C. 103(a) as being unpatentable over **MIZUTA** in view of US 4,161,880 A (**PROSKY**).

MIZUTA, to summarize, discloses all the limitations as claimed by Applicant in Claims 3, 6, 17, and 20 as described above in Paragraph 11 as applied to Claims 1, 2, 4, 5, 7, 12-15, 18 and 19, further including the temperature detecting circuit may be a diode or a transistor.

MIZUTA as described above, does not disclose that the temperature detecting circuit may include a thermistor as claimed by Applicant in Claims 3, 6, 17, and 20, and wherein the temperature is calculated from the function as claimed in Claims 6 and 20.

PROSKY discloses a digital thermometer employing a current source 16 for applying current to a thermistor 12, in order to create a voltage directly related to its temperature (Col. 3, Lines 20-45), and to calculate the temperature value using a well-known equation having a negative logarithmic relationship (Col. 4, Lines 1-30).

PROSKY is evidence that ordinary workers in the field of thermometry would recognize the benefit of substituting a thermistor as taught by PROSKY for the diode thermometer of **MIZUTA** in order to indicate a numerical value of temperature using a logarithmic equation. Moreover, it is well known in the art to use a logarithmic equation for modeling the temperature dependence of a thermistor.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to substitute a thermistor for the diode in the thermometer of **MIZUTA** and to use a logarithmic equation since the device is nonlinear in order to calculate the numerical value of temperature as taught by **MIZUTA**.

14. Claims 8, 9, 22, and 23 are FINALLY rejected under 35 U.S.C. 103(a) as being unpatentable over **MIZUTA** in view of US 5,459,671 A (**DULEY**).

MIZUTA, to summarize, discloses all the limitations as claimed by Applicant in Claims 8, 9, 22, and 23 as described above in Paragraph 11 as applied to Claims 1, 2, 4, 5, 7, 12-15, 18 and 19. **MIZUTA** as described above, does not disclose that the temperature detecting circuit is thermally coupled to an off-chip device being at least one of a hard drive and a battery and when the device is a battery, controlling a charge function of the battery based on the temperature of the battery.

DULEY discloses a battery controller that includes a temperature sensor, under control of a microcontroller. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to thermally couple the temperature sensor device of **MIZUTA** to an off-chip device in order to control a charge function of the battery based on the temperature of the battery as taught by **DULEY**.

15. Claims 8, 10 and 21 are FINALLY rejected under 35 U.S.C. 103(a) as being unpatentable over **MIZUTA** in view of US 6,092,926 A (**STILL et al.**, hereinafter **STILL**).

MIZUTA, to summarize, discloses all the limitations as claimed by Applicant in Claims 8, 10 and 21 as described above in Paragraph 11 as applied to Claims 1, 2, 4, 5, 7, 12-15, 18 and 19. **MIZUTA** as described above, does not disclose that the temperature detecting circuit is thermally coupled to an off-chip device being at least

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one of a hard drive and a battery and when the device is a harddrive, controlling the harddrive based on the temperature of the harddrive.

STILL discloses a device that includes a thermistor or thermocouple temperature sensor that is thermally coupled to the off-chip device. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to thermally couple the temperature sensor device of **MIZUTA** to an off-chip harddrive device in order to control the harddrive based on the temperature of the battery as taught by **STILL**.

16. Claims 11 and 16 are FINALLY rejected under 35 U.S.C. 103(a) as being unpatentable over **MIZUTA** in view of US 6,240,371 A (**AZAR**).

MIZUTA, to summarize, discloses all the limitations as claimed by Applicant in Claims 11 and 16 as described above in Paragraph 11 as applied to Claims 1, 2, 4, 5, 7, 12-15, 18 and 19. **MIZUTA** as described above, does not disclose a multiplexer that multiplexes the programmable current to a plurality of temperature dependent resistive devices thermally coupled to a plurality of devices; a demultiplexer that demultiplexes a plurality of temperature-dependant voltages to the analog-to-digital converter converting each temperature-dependant voltage to a digital value; and equating each digital value to the temperature of each of the plurality of off-chip and/or on-chip devices.

AZAR discloses (Figs. 3-4) a device for measuring a plurality of temperatures by using a multiplexer and a demultiplexer enabling a plurality of temperature-dependent voltages to be demultiplexed to the analog-to-digital converter converting each temperature-dependent voltage to a digital value, representative of temperature.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to add a multiplexer and demultiplexer to the thermometer of **MIZUTA** in order to enable measurement of the numerical value of a plurality of devices as taught by **AZAR**.

17. Claims 24-29 and 31-32 are FINALLY rejected under 35 U.S.C. 103(a) as being unpatentable over **MIZUTA** in view of **AZAR**.

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MIZUTA, to summarize, discloses all the limitations as claimed by Applicant in Claims 24-28 and 31-32 as described above in Paragraph 11 as applied to Claims 1, 2, 4, 5, 7, 12-15, 18 and 19. **MIZUTA** as described above, does not disclose the additional limitation that the thermometer is located on an audio processing chip.

AZAR discloses a device for measuring a plurality of temperatures by using a multiplexer and a demultiplexer enabling a plurality of temperature-dependent voltages to the analog-to-digital converter converting each temperature-dependent voltage to a digital value, representative of temperature. Since the device is capable of measuring low frequency electrical signals, it is considered also to be an audio processing chip.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the multiplexer and demultiplexer of the audio processor chip for the thermometer of **MIZUTA** in order to enable measurement of the numerical value of a plurality of temperature measurement devices as taught by **AZAR**.

18. Claims 30 and 33 are FINALLY rejected under 35 U.S.C. 103(a) as being unpatentable over **MIZUTA** and **AZAR** and further in view of **PROSKY**.

MIZUTA and **AZAR**, to summarize, discloses all the limitations as claimed by Applicant in Claims 30 and 33 as described above in Paragraph 17 as applied to Claims 24-29 and 31-32, further including the temperature detecting circuit may be a diode or a transistor.

MIZUTA as described above, does not disclose that the temperature detecting circuit may include a thermistor as claimed by Applicant in Claims 3, 6, 17, and 20, and wherein the temperature is calculated from the function as claimed in Claims 6 and 20.

PROSKY discloses a digital thermometer employing a current source 16 for applying current to a thermistor 12, in order to create a voltage directly related to its temperature (Col. 3, Lines 20-45), and to calculate the temperature value using a well-known equation having a negative logarithmic relationship (Col. 4, Lines 1-30).

PROSKY is evidence that ordinary workers in the field of thermometry would recognize the benefit of substituting a thermistor as taught by **PROSKY** for the diode thermometer of **MIZUTA** in order to indicate a numerical value of temperature using a

logarithmic equation. Moreover, it is well known in the art to use a logarithmic equation for modeling the temperature dependence of a thermistor.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to substitute a thermistor for the diode in the thermometer of **MIZUTA** and to use a logarithmic equation since the device is nonlinear in order to calculate the numerical value of temperature as taught by **MIZUTA**.

19. Claims 35 and 36 are FINALLY rejected under 35 U.S.C. 103(a) as being unpatentable over **MIZUTA** and **AZAR** and further in view of **DULEY**.

MIZUTA and **AZAR**, to summarize, discloses all the limitations as claimed by Applicant above in Paragraph 17 as applied to Claims 24-29 and 31-32. **MIZUTA** as described above, does not disclose that the temperature detecting circuit is thermally coupled to an off-chip device being a battery and controlling a charge function of the battery based on the temperature of the battery.

DULEY discloses a battery controller that includes a temperature sensor, under control of a microcontroller. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to thermally couple the temperature sensor device of **MIZUTA** to an off-chip device in order to control a charge function of the battery based on the temperature of the battery as taught by **DULEY**.

20. Claim 34 is FINALLY rejected under 35 U.S.C. 103(a) as being unpatentable over **MIZUTA** and **AZAR** and further in view of **STILL**.

MIZUTA and **AZAR**, to summarize, discloses all the limitations as claimed by Applicant above in Paragraph 17 as applied to Claims 24-29 and 31-32.

MIZUTA as described above, does not disclose that the temperature detecting circuit is thermally coupled to an off-chip device comprising a hard drive, and controlling the harddrive based on the temperature of the harddrive.

STILL discloses a device that includes a thermistor or thermocouple temperature sensor that is thermally coupled to the off-chip device. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to thermally couple the temperature sensor device of **MIZUTA** to an off-chip harddrive

device in order to control the harddrive based on the temperature of the battery as taught by **STILL**.

Conclusion

21. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The prior art cited in the form PTO-892 and not mentioned above disclose related temperature measuring devices and methods.

- US 5453682 A (Hinrichs; Karl et al.)
- US 20010055231 A1(Tsuruta, Kenji)
- US 6380726 B1 (Szabo; Paul I.)
- US 4949274 A (Hollander; Milton B. et al.)

22. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

23. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stanley J. Pruchnic, Jr., whose telephone number is **(571) 272-2248**. The examiner can normally be reached on weekdays (Monday through Friday), the best hours being from 8:30 AM to 4:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diego Gutierrez (Art Unit 2859) can be reached at **(571) 272-2245**. The Central FAX Number for all official USPTO communications is **571-273-8300**.

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24. Any inquiry of a general nature or relating to the status of this application or proceeding may be directed to the official USPTO website at <http://www.uspto.gov/> or you may call the **USPTO Call Center** at **800-786-9199** or 703-308-4357. The Technology Center 2800 Customer Service FAX phone number is (703) 872-9317.

The cited U.S. patents and patent application publications are available for download via the Office's PAIR. As an alternate source, all U.S. patents and patent application publications are available on the USPTO web site (www.uspto.gov), from the Office of Public Records and from commercial sources.

Private PAIR provides external customers Internet-based access to patent application status and history information as well as the ability to view the scanned images of each customer's own application file folder(s).

25. For inquiries relating to Patent e-business products and service applications, you may call the *Patent Electronic Business Center (EBC)* at 703-305-3028 or toll free at 866-217-9197 between the hours of 6 a.m. and midnight Monday through Friday EST, or by e-mail at: ebc@uspto.gov. Additional information is available on the Patent EBC Web site at: <http://www.uspto.gov/ebc/index.html>.

SP

Stanley J. Pruchnic, Jr.
12/26/05

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PRIMARY EXAMINER